acid to varying amounts of goat's serum. Wendelstadt now found that the hæmolytic property of the serum for the different kinds of red blood corpuscles was not all lost at once, but disappeared for the different animal's corpuscles at different dilutions; that is, the complement for oxen's red cells was lost first, next that for pig's blood, and most resistant to the action of acids was the sheep's blood. That the complement and not the intermediary body was injured in these experiments was shown by adding small amounts of fresh complements to the mixture in which no hæmolysis occurred, when dissolution was rapidly complete. By this method Wendelstadt believes he can demonstrate the multiplicity and specificity of the complement.—W. T. L.

A Contribution to the Pathology of Glanders of the Lung.—W. G. MacCallum (*Beiträge zur Pathol.' Anat. u. allge. Pathologie*, 1902, Band xxxi., p. 440) describes the lesions found in the lung of a man who died of glanders following an accidental infection with an attenuated culture of the bacillus. At autopsy the lungs were found to contain numerous small, grayish-red firm nodules, both over the pleural surfaces and throughout the lung tissue. Similar nodes were found in the spleen and kidneys. The bacillus mallei was recovered from the nodules in the lung, spleen, and kidney as well as from other situations. From a histological examination the author finds three stages in the development of the nodules in the lung.

In the earliest lesions the centre of the nodule is composed of masses of leucocytes, fibrin, epithelial cells, and débris, the alveoli immediately surrounding this central portion being filled with plugs of fibrin, and outside of this, again, the alveoli containing epithelial cells. Large numbers of bacilli were found in the central portion.

In the second stage the central necrosis was more marked, and the exudate in the surrounding alveoli showed beginning organization.

The last stage is represented by a complete central necrosis, practically surrounded by a capsule of organized connective tissue.

The author, from these studies, agrees with Wright, Ehrlich, and Johne, and considers the process as a localized necrotizing bronchopneumonia.

Observations were made further upon the process of organization in the exudate surrounding the necrotic nodule. Lindeman believed the connective tissue arose from the alveolar epithelium, and Aldnigt, Fraenkel, and others derived the connective-tissue elements from the alveolar walls alone; while Ribbert thought organization took place from the walls of the finer bronchioles. Still other observers consider the greater interlobular septa and pleura as the points of origin. The author found in this case that organization commenced usually by a growth of connective tissue from the alveolar walls, but occasionally the connective-tissue elements also arose from the walls of the small bronchi. In serial sections the fibrin plugs were found to extend from one alveolus into another, or from the finer bronchioles into the alveoli, and the process of organization was followed along the fibrin masses directly from one alveolus to another. Thus an entire system of alveoli might undergo organization, the connective tissue growing from the alveolar wall into the exudate only at one point, and thence extending from one fibrin plug to another.—W. T. L.

A Case of Epidermoid from the Callosal Region.—BLASIUS (*Virchow's Archiv*, 1901, Band clxv., p. 504) states that intracranial pearl tumors (cholesteatomata) are certainly of epithelial type (to use the term in a morphological sense). The question arises whether they are epidermal or entodermal in derivation. At Beneke's suggestion, Blasius seeks to differentiate the two by macerating in silver nitrate. The two types of reaction are seen in cases of cholesteatomata. In the one type the sharp and continuous linear impregnation suggests the reaction of true mucosa. In the other (found in a case of cholesteatoma affecting the callosum) Blasius finds an impregnation quite after the fashion of, say, *vernix caseosa*—a row of dots or lines, discontinuous, ill-spaced, and of uneven diameter. Thus, despite the absence of hair and glands from the tumor, the diagnosis of epidermoid is made; indeed, in virtue of their absence, the origin may be referred to a remote point in the history of the medullary groove. When the pearl tumor is of mucosa type (of entodermal derivation) it lies usually at the base, perhaps derived from the anlage of the hypophysis. Blasius notes the frequency with which a meningeal nidus is reported for these tumors, but is inclined to regard the association as incidental to the development of an originally intracerebral (non-meningeal) focus. The pial or dural attachments would on this hypothesis be due to the pressure-atrophy of true brain elements which lay between tumor and meninges.

Remarks are appended upon granular ependymitis and upon multiple herniæ cerebri.

Weigert has held focal loss of ependyma as the first step in the onset of granular ependymitis. Blasius suggests, further, a mechanical origin for this loss (multiple ruptures consequent upon internal hydrocephalus), and regards the outgrowth of neuroglia following as a case of scar formation rather than as a reawakening of hitherto confined idioplastic tendency of glia cells, as suggested by Weigert.

Blasius adds four new cases of multiple herniæ cerebri to the four already in the literature. All four occurred together with intracranial tumors, and as a consequence of internal hydrocephalus. The herniæ sometimes occur into Pacchionian granulations, but they have usually a wider and different distribution.—E. E. S.

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All communications should be addressed to

DR. FRANCIS R. PACKARD, 1831 Chestnut Street, Philadelphia, U.S.A.